

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of )  
)  
Preparation for International )  
Telecommunication Union World )  
Radiocommunication Conferences )

IC Docket No. 94-31

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To: The Commission

**REPLY COMMENTS**  
**OF CONSTELLATION COMMUNICATIONS, INC.**

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## **SUMMARY OF REPLY COMMENTS**

As stated in its earlier Comments, Constellation Communications, Inc. focuses its interest in the 1995 WRC on the development of the mobile-satellite service ("MSS") using low-Earth orbit ("LEO").

In particular, Constellation supports the Commission's proposals that would enhance the use of the 1610-1626.5 MHz bands for LEO MSS systems. In that regard, Constellation previously urged the Commission to delete RR 733E to remove any ambiguity about the primary nature of MSS with respect to the aeronautical radionavigation and fixed services. Several commenters supported this proposal, and only one, the National Academy of Sciences through the National Research Council's Committee on Radio Frequencies ("CORF"), opposed it. However, CORF's argument for retention of RR 733E is disingenuous particularly since radio astronomy in the 1610.6-1613.8 MHz has the same level of protection from in-band and out-of-band interference as in any other primary radio astronomy allocation. Indeed, §25.213(a) of the Commission's rules provides for suitable protection to radio astronomy. Thus, the Commission should discount CORF's arguments and delete RR 733E as Constellation has proposed.

Constellation also urges the Commission to aggressively advocate its proposals for feeder link spectrum in the C-band, Ku-band, and KA-band portions of the spectrum in order to satisfy the feeder link requirements for LEO MSS systems operating below 3 GHz. In that regard, Constellation believes that LEO MSS feeder links should not be required to protect GSO satellites in the fixed satellite service under the provisions of RR 2613 in bands specifically identified for this purpose. While ATT contends that the 10.7-10.95 GHz and 11.2-11.45 GHz bands are not suitable for MSS feeder links because of their use by

terrestrial fixed services, ATT's reasons are invalid particularly since it already has been demonstrated in other bands that thousands of Earth stations and microwave relay stations can, in fact, be coordinated in the same band. Moreover, MSS feeder link Earth stations in this country are likely to be relatively few in number. Thus, sharing will not be burdensome.

Constellation also urges the Commission to insure that usable worldwide allocations at 2 GHz are made available for growth of LEO MSS systems. The development of sharing criteria, regulatory provisions or relocation of existing users are critically important aspects of this objective. Thus, Constellation supports proposals for the development of a comprehensive plan to establish a worldwide pair of 40 MHz bands for LEO MSS systems that would contain provisions for the practical implementation of such systems on a global basis.

Finally, the Commission should not allow non-GSO FSS issues at Ka-Band divert its attention on the urgent need to obtain allocations at WRC-95 for feeder links required by LEO MSS operating below 3 GHz. In particular, the Commission should reject the effort of Teledesic Corporation to introduce non-GSO FSS systems under the mantle of MSS feeder links with respect to the WRC-95 agenda.

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To: The Commission

REPLY COMMENTS

Constellation Communications, Inc. ("Constellation"),<sup>1</sup> by its attorneys, files these Reply Comments in response to the Commission's Second Notice of Inquiry<sup>2</sup> in this proceeding ("Notice") regarding International Telecommunication Union ("ITU") World Radio Conference ("WRC") preparations.

As indicated in its earlier comments,<sup>3</sup> Constellation's interest in the 1995 WRC is focused on the development of the mobile-satellite service ("MSS") using low-Earth orbit ("LEO") technology. In particular, Constellation supported the Commission proposals that would (1) enhance the utility of the 1610-1626.5 MHz and 2483.5-2500 MHz bands for LEO MSS systems, (2) allocate at least 200 MHz of

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<sup>1</sup> Constellation is an applicant for a LEO satellite system in the 1610-1626.5 MHz and 2483.5-2500 MHz bands. See application File Nos. 17-DSS-P-91(48) and CSS-91-013, as amended on November 16, 1994.

<sup>2</sup> FCC No. 95-36 released January 31, 1995.

<sup>3</sup> See Comments of Constellation Communications, Inc. filed on July 15, 1994 in response to the first Notice of Inquiry, and Comments of Constellation Communications, Inc. filed on March 6, 1995 in response to the Second Notice of Inquiry.

uplink and 200 MHz of downlink in each of the C-band, Ku-band and Ka-band portions of the spectrum for LEO MSS feeder links on a priority basis without any obligations to protect use of the bands by geostationary satellite orbit ("GSO") satellites under the provisions of RR 2613, and (3) provide access to additional 2 GHz spectrum for the future expansion of the Constellation's 1.6/2.4 GHz LEO MSS system.

I. RR 733E Should Be Suppressed To Enhance Development Of LEO MSS Systems In The 1610-1626.5 MHz And 2483.5-2500 MHz Bands.

With respect to the 1610-1626.5 MHz band, Constellation supported the Commission's proposal to modify footnote RR 731E to remove any ambiguity about the primary status of MSS with respect to the aeronautical radionavigation and fixed services, and urged the Commission to remove the same ambiguity with respect to radio astronomy by deleting RR 733E.<sup>4</sup> Only the National Academy of Sciences

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<sup>4</sup> See Constellation Comments at 2-5. This position was supported by five other parties. See AMSC Comments at 7-8, Iridium Comments at 8-9, LQP Comments at 3-10, Motorola Comments at 3, and TRW Comments at 5-7. There was also wide support for the Commission's proposal to enhance use of the 2483.5-2500 MHz band by increasing the power flux density level below which coordination is not required with terrestrial services under Resolution 46. See Constellation Comments at 5-6, AMSC Comments at 8, LQP Comments at 10-11, TRW Comments at 8. Constellation supports the intent of LQP's proposed change to the text of MOD RR 753F, but believes the text would read better if the phrase "by a space station exceeds" were to be used instead of "exceeds on a per space station basis." Constellation supports the intent of LQP's proposed revisions to Resolution 46 to reduce the number of required coordinations with terrestrial services. See LQP Comments at 21-24. However, Constellation is not convinced that the proposed text is the most appropriate. For example, the conditions in the proposed new provisions 2.5.6-2.5.8 seem better suited to defining which assignments might be affected (provision 2.1). Also, it is not clear that there will be enough information normally  
(continued...)

through the National Research Council's Committee on Radio Frequencies ("CORF") argued for retention of RR No. 733E.<sup>5</sup>

CORF is disingenuous in its contention that suppression of RR 733E will provide it "only the weak protection of RR 734" from in-band interference and "no protection" from out-of-band emissions.<sup>6</sup> Radio astronomy was upgraded from secondary to primary status at WARC-92 precisely to provide the highest level of protection from both in-band and out-of-band interference afforded any radio service under the International Radio Regulations. Thus, the primary, worldwide table allocation status of radio astronomy in the 1610.6-1613.8 MHz band affords it the same level of protection from in-band and out-of-band interference as is afforded in any other primary radio astronomy allocation. CORF has provided no technical basis for concluding that the MSS allocation status has to be modified by RR 733E in order to preserve the primary status of radio astronomy. In fact, §25.213(a) of the Commission's Rules provides for suitable protection to radio astronomy as a co-primary service with MSS without having to resort to RR 733E.<sup>7</sup> Finally, CORF's emphasis on out-of-band interference is not confined to the 1610.6-1613.8 MHz band, but applies to all radio astronomy allocations. There is no reason to treat this band

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<sup>4</sup>(...continued)

available in the Master Register (e.g., emission designator) to distinguish between digital and analog terrestrial systems. Constellation also opposes CORF's proposal for additional text in RR 753F to recognize second harmonic interference into radio astronomy at 4990-5000 MHz. See CORF Comments at 12.

<sup>5</sup> See CORF Comments at 7-11.

<sup>6</sup> See CORF Comments at 11.

<sup>7</sup> Even CORF does not support the Commission's alternative of replacing RR 733E with the Commission's protection rules. See CORF Comments at 8.

as a special case with a band specific footnote since out-of-band emissions will be addressed as a general matter at WRC-97 under agenda item 2.2 considering Recommendation No. 66 (Rev. WARC-92). In fact, this recommendation was modified at WARC-92 to add recommends 5 calling on the ITU-R to "submit a report to the next competent conference on the results of its studies with a view to reviewing and including spurious and out-of-band emission limits in Appendix 8 of the Radio Regulations, principally for the protection of radio astronomy and other passive services." (emphasis added.) Thus, there is no reason to retain RR 733E except to suppress the allocation status of MSS contrary to the decision of WARC-92 to provide both services with co-equal primary status in the table of frequency allocations.

II. The Commission Should Aggressively Advocate Its Current LEO MSS Feeder Link Allocation Proposals.

Constellation supports the Commission's proposals for feeder link spectrum in the C-band, Ku-band<sup>8</sup> and Ka-band portions of the spectrum in order to satisfy the feeder link requirements of LEO MSS systems operating below 3 GHz. In particular, the Commission should continue to advocate allocation of the 5000-5250 MHz (Earth-to-space)<sup>9</sup> and 6825-7075 MHz (space-to-Earth) for LEO MSS feeder

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<sup>8</sup> With respect to the 15.4-15.7 GHz band, Constellation can support the proposals that this band be allocated for non-GSO MSS feeder links in both directions of transmission. See e.g., LQP Comments at 14-15.

<sup>9</sup> ESD USA, Inc. ("ESD") objects to the Commission's proposal to allocate the 5000-5250 MHz band for LEO MSS Earth-to-space feeder links. See ESD Comments at 5-7. However, ESD is not a Commission licensee and has no standing to oppose the Commission's proposal in this band because the ELEKON-STIR  
(continued...)



links.<sup>10</sup> Constellation has indicated that this C-band spectrum is needed for its feeder links because of the favorable propagation conditions at these frequencies to support multiple gateways within Earth coverage feeder link antenna beams under an interference sharing plan among the code division multiple access ("CDMA") system operators. Ka-band frequencies are unsuitable for such a system architecture.<sup>11</sup> Constellation also believes that LEO MSS feeder links should not be subject to the requirements of protecting GSO satellites in the fixed satellite

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<sup>9</sup>(...continued)

system is a Russian, not U.S. system. Moreover, as an FSS/MSS system, in the 1610-1631.5 MHz band, use of the 5150-5216 MHz band for space-to-earth transmission is not in conformance with RR 797A which restricts use of this band for feeder links for the radiodetermination-satellite service in the 1610-1626.5 MHz band. ESD's proposal for "a global NGSO MSS policy based on open access" (see ESD Comments at 3-5) should be ignored at this time since it is not within the scope of the WRC-95 agenda under consideration in this proceeding.

<sup>10</sup> Constellation is proposing to use the 5050-5250 MHz and 6825-7025 MHz bands for its feeder links. The 200 MHz of feeder link spectrum is needed to support 32 spot beams in the L/S-bands, each with a transponder bandwidth of 12 MHz, as well as telemetry, tracking and command functions. See Constellation's November 16, 1994 Amendment, Appendix A, Tables 1-A and 1-B for the detailed Constellation frequency plan.

<sup>11</sup> See Comments of Constellation Communications filed May 5, 1994 at Appendix C in CC Docket No. 92-15-166. However, different LEO MSS system architectures, such as those of TRW and Motorola, can make effective use of Ka-band frequencies above 17 GHz for their feeder links. Hughes Space and Communications Company and Hughes Communications Galaxy, Inc. (collectively "Hughes") argue that all non-GSO MSS feeder links be accommodated below 17.7 GHz, and that RR 2613 continue to be applied to any LEO MSS feeder link allocation above 17.7 GHz if such allocations are to be made. See Hughes Comments at 5-6 and 10-15. GE Americom takes a similar position in light of its concerns that LEO MSS feeder links would preclude use of the 17.7-20.2 GHz and 28.5-30.0 GHz band by GSO FSS systems. See GE Americom Comments at 2-3. See also Comsat World System Comments at 6-8. Constellation disagrees with these positions, and supports the proposals for allocation of at least 500 MHz of uplink and 500 MHz of downlink spectrum between 17.7 and 30 GHz for non-GSO MSS feeder links in which RR 2613 is not applicable. See Iridium Comments at 22-23, Motorola Comments at 11-12 and TRW Comments at 13-19.

service ("FSS") under the provisions of RR 2613 in bands identified specifically for this purpose.

AT&T Corp. ("AT&T") opposes use of the 10.7-10.95 GHz and 11.2-11.45 GHz bands on the grounds that these bands are not suitable for MSS feeder links because they are heavily used by terrestrial fixed services even if sharing between MSS feeder links and FSS is feasible using reverse band working.<sup>12</sup> Constellation does not believe that this is a valid reason for excluding MSS feeder links from these bands because it has been demonstrated in other bands, such as the 3700-4200 MHz and 5925-6425 MHz bands, that thousands of Earth stations and thousands of microwave relay stations can in fact be coordinated in the same bands. Moreover, since the number of MSS feeder link Earth stations in this country is likely to be numbered in the tens rather than in the thousands, MSS feeder link sharing will be much less burdensome on the terrestrial services than other types of FSS systems.

The American Mobile Satellite Corporation ("AMSC") objects to the use of the frequencies assigned to its feeder links unless a PFD limit on the GSO is imposed. Since such a limit is being proposed by the Commission, there is no basis for AMSC's objections.<sup>13</sup>

GE American Communications, Inc. ("GE Americom") objects to giving non-GSO MSS feeder links priority over GSO FSS in the allotment bands below 17

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<sup>12</sup> See AT&T Comments at 2-3.

<sup>13</sup> CMC proposes a footnote to specifically mention protection of the FSS Allotment Plan in the 6825-7075 MHz band. See CMC Comments at 13. Constellation sees no reason to develop text for such a footnote since the Commission's proposal for MOD RR 2631 provides such protection. Constellation does not support CMC's proposed addition to MOD RR 2631 since no regulatory provisions were proposed to implement these technical options.

GHz, especially in the 10.7-10.95 GHz, 11.2-11.45 GHz and 12.75-13.25 GHz bands, preferring instead to eliminate the Appendix 30B Allotment Plan in these bands.<sup>14</sup> However, GE Americom's proposal for elimination or modification of the allotment plan is not on the WRC-95 agenda. Moreover, given the history of this plan at WARC-79, WARC-85 (Orb-85) and WARC-88 (Orb-88), it is highly unlikely that GSO FSS access to these bands will be possible on the same basis as the unplanned FSS bands. Consequently, reverse band working of non-GSO MSS feeder links in these bands is a practical means of satisfying a real U.S. requirement for LEO MSS feeder links in a manner that is technically compatible with the allotment plan.

Constellation does not agree with the power flux density ("PFD") limits proposed by Loral/QUALCOMM L.P. ("LQP") in the 6825-7075 MHz and 12.75-13.25 GHz bands.<sup>15</sup> The PFD values identified by LQP are taken from the WRC-95 Conference Preparatory Meeting ("CPM") Report with regard to bands heavily used by GSO/FSS (e.g., 3700-4200 MHz and 5925-6425 MHz). Since the allotment plans in the 6, 11 and 13 GHz bands being proposed for reverse-band working will be lightly used by the GSO/FSS in the other direction because of the intrinsic nature of the allotment plan in these bands, it is more appropriate to apply the second set of PFD levels given in the CPM Report, i.e., -154/-144 dB(W/m<sup>2</sup>/4 kHz) or -130/-120 dB(W/m<sup>2</sup>/MHz) in the 6825-7075 MHz band<sup>16</sup> and -148/-138

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<sup>14</sup> See GE Americom Comments at 3-4.

<sup>15</sup> See LQP Comments at 25. These values are based on Section 3.6.4.8 of the CPM Report.

<sup>16</sup> However, the PFD limits specified in MOD RR 2567 of the Commission's proposals should be increased by 2 dB to be consistent with RR 2566 applicable in this part of the spectrum. See Constellation Comments at 8.

dB(W/m<sup>2</sup>/4 kHz) or -124/-114 dB(W/m<sup>2</sup>/MHz) in the 12.75-13.25 MHz band.<sup>17</sup>

Some parties propose that Resolution 46 be modified to include coordination of non-GSO feeder links and GSO FSS systems.<sup>18</sup> While Constellation can support the need for such coordination procedures in bands where non-GSO MSS feeder links and GSO FSS operate in the same direction of transmission, Constellation is not convinced that Resolution 46 procedures for non-GSO/GSO coordination are needed in bands where non-GSO MSS feeder links operate in the reverse direction of transmission with respect to the GSO FSS. A PFD at the GSO<sup>19</sup> and an Earth station-Earth station coordination procedure should be sufficient in reverse working bands. However, extension of Resolution 46 to include coordination between non-GSO MSS feeder links appears to be appropriate.

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<sup>17</sup> AT&T objects to the Commission's formulation of the PFD limits in MOD RR 2567 and MOD RR 2575 concerning the 6825-7075 MHz and 12.75-13.25 GHz bands in which the PFD limit jumps abruptly at a 5° angle of arrival (or, equivalently, elevation angle). See AT&T Comments at 3-4. While linear interpolation between the 5° and 25° PFD limits is usually applied, the Commission's formulation is preferable because it will allow non-GSO MSS feeder links to operate with a constant PFD level over a wider satellite coverage area and extend the service area over which a feeder link earth station can communicate with mobile terminals. The Commission's proposal still provides the protection needed by terrestrial services for angles of arrival below 5° which are the most susceptible to interference. Moreover, adequate protection will also be provided at higher elevation angles because, as recognized by AT&T, real satellite antennas do not have an abrupt 10 dB change in gain at the 5° angle of arrival breakpoint, but will in fact be rolling off at higher elevation angles well above 5° in order to meet the 5° elevation angle PFD limit.

<sup>18</sup> See e.g., LQP Comments at 12 and TRW Comments at 12-13 and 16-17.

<sup>19</sup> For technical completeness, the PFD limit on GSO FSS downlinks could be extended beyond the Earth's surface to include LEO satellite receivers.

III. The Commission Should Insure That Usable Worldwide Allocations At 2 GHz Are Made Available For Growth Of LEO MSS Systems.

Constellation agrees with the Industry Advisory Committee ("IAC") report that the MSS will require at least 150 MHz and more likely 300 MHz by the year 2005.<sup>20</sup> Currently, 68 MHz at 1525-1559 MHz and 1626.5-1660.5 MHz is available and being used by GSO MSS satellites providing national and regional coverage, and 33 MHz at 1610-1626.5 MHz and 2483.5-2500 MHz will be used by multiple LEO MSS systems providing global coverage. Constellation supports the proposals of the Commission and other parties to identify bands for MSS use that can be used by GSO MSS satellites to provide national and regional coverage even as part of an international system, such as INMARSAT.<sup>21</sup> However, the future growth of LEO MSS systems providing personal satellite communications requires that an additional pair of uplink/downlink bands be allocated on a worldwide, primary basis to accommodate growth of LEO MSS systems initially implemented in the 1610-1626.5 MHz and 2483.5-2500 MHz bands. For this reason, Constellation supported the Commission's 2 GHz MSS proposals at 1985-2025 MHz (Earth-to-space) and

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<sup>20</sup> In the event this objective cannot be accomplished at WRC-95, Constellation supports the proposals for a minor modification of WRC-97 agenda item 3.1 that would explicitly include consideration of allocations for "additional service links and feeder links." See AMSC Comments at 12-13, Iridium Comments at 24-25, and Motorola Comments at 13.

<sup>21</sup> There are other bands already allocated between 1 and 3 GHz which are being used or can be used by GSO MSS systems, including 1492-1525 MHz, 1525-1559 MHz, 1626.5-1660.5 MHz, 1675-1710 MHz, 2500-2535 MHz and 2655-2690 MHz. While some of these bands may not be usable in the United States, there are enough options to provide growth for national and regional GSO MSS systems, and the Commission should support upgrading these allocations. See e.g., AMSC Comments at 9-12 and CMC Comments at 19-25. Iridium Comments at 13-16, LQP Comments at 29-31, and Motorola Comments at 6-7 and TRW Comments at 9-12.

2160-2200 MHz (space-to-Earth).<sup>22</sup>

COMSAT Mobile Communications ("CMC") states its opinion that the most important objective for the United States at WRC-95 is to insure that these 2 GHz MSS bands become usable for MSS before the year 2000.<sup>23</sup> However, Constellation agrees with other parties who point out that advancing the effective date of the 2 GHz MSS allocations is not the most important issue at WRC-95, nor is it the most important aspect of providing access to a worldwide primary 2 GHz allocation for LEO MSS systems.<sup>24</sup> Other aspects, such as sharing criteria, regulatory provisions, or relocation of existing users are just as important to insure the practical implementation of LEO MSS systems in the 2 GHz MSS bands. These aspects apply to both the domestic and international environments where transitional arrangements appear to be needed for introducing LEO MSS systems into the bands. For this reason, Constellation supports proposals for the development of a comprehensive plan to establish a worldwide pair of 40 MHz bands for LEO MSS systems that would contain provisions for the practical implementation of LEO MSS systems on

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<sup>22</sup> The 1992 WARC made primary allocations in the bands 1980-2010 MHz (plus 1970-1980 MHz in Region 2) for MSS uplinks and 2170-2200 MHz (plus 2160-2170 MHz in Region 2) for MSS downlinks in the 2 GHz portion of the spectrum. The Commission's proposals reflect its decision to allocate the 1850-1990 MHz band to new personal communication services. See Memorandum Opinion and Order in GEN Docket No. 90-314, FCC 94-144 released June 13, 1994; Notice of Proposed Rule Making in ET Docket No. 95-18, FCC 95-39 released January 31, 1995.

<sup>23</sup> See CMC Comments at 4-8.

<sup>24</sup> See Iridium Comments at 16-19, LQP Comments at 28-29, Motorola Comments at 8-9, and TRW Comments at 21-25.

a global basis.<sup>25</sup>

IV. The Commission Should Not Allow Non-GSO FSS Issues At Ka-Band To Dissipate Its Focus On The Urgent Need To Obtain Allocations At WRC-95 For Feeder Links Required By LEO MSS Operating Below 3 GHz.

Teledesic Corporation ("Teledesic") argues that its proposed non-GSO Ka-band system should be considered at WRC-95 under the agenda items dealing with MSS feeder links.<sup>26</sup> The Commission should reject Teledesic's attempt to bring non-GSO FSS systems under the mantle of MSS feeder links with respect to the WRC-95 agenda. It should be clear that paragraph (2) of WRC-95 agenda item 2 limits consideration under this agenda item to MSS below 3 GHz and thus feeder links associated with MSS below 3 GHz. Feeder links associated with non-GSO MSS systems below 3 GHz are physically distinct from their respective service links because they operate in different bands. The Commission should reject Teledesic's back door attempt to characterize its system as an MSS system because certain of its proposed frequencies are also allocated to both FSS and MSS in order to have its requirements considered together with the urgent requirements for feeder links associated with MSS systems below 3 GHz. Teledesic's position is in clear contradiction to the intent of this agenda items which is to facilitate the introduction of MSS below 3 GHz, and not non-GSO FSS/MSS at Ka-band.

Constellation believes that the controversies surrounding competing proposals for non-GSO FSS and GSO FSS at Ka-band should not be allowed to detract from

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<sup>25</sup> For example, Constellation supports the development of a proposal along the lines of ADD RR 746D proposed by CMC. See CMC Comments at 8-10.

<sup>26</sup> See Teledesic Comments at 3-4.

the urgent requirement to identify suitable feeder link bands for the non-GSO systems operating in the 1610-1626.5 MHz and 2483.5-2500 MHz bands. The competing FSS proposals at Ka-band are not, and should not, be deemed an MSS feeder link issue with respect to the WRC-95 agenda.<sup>27</sup>

Instead, the Commission should clearly decide now that these matters will be considered at WRC-97 under the agenda item related to multi-service satellite systems.<sup>28</sup> The critical objective to be achieved at WRC-95 is the allocation of spectrum for feeder links associated with non-GSO satellites providing MSS in bands below 3 GHz. Constellation finds no merit in Teledesic's claims that it would be arbitrary and capricious not to accommodate Teledesic at WRC-95 because the type of spectrum requirement represented by the Teledesic system is simply not within the scope of the WRC-95 agenda. Teledesic's argument that the distinctions between FSS and MSS are no longer valid for its system is just another reason why its concerns are best treated at WRC-97.

### Conclusion

As discussed above, Constellation supports the Commission's proposals to enhance the use of the 1610-1626.5 MHz and 2483.5-2500 MHz bands, but continues to urge the deletion of RR 733E, and to provide non-GSO MSS feeder link feeder link allocations at C, Ku and Ka-band. Constellation supports the

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<sup>27</sup> See Comsat World Systems Comments at 6-7 and 12, Iridium Comments at 25-26, Motorola Comments at 13-14, TRW Comments at 13, n.23.

<sup>28</sup> For example, the Teledesic requirement can be addressed under WRC-97, agenda item 2.2 which includes consideration of Recommendation 715 (Orb-88).



Commission's efforts to identify a pair of 40 MHz uplink and downlink bands at 2 GHz to accommodate the growth of LEO MSS for their second generation systems. Constellation also urges the Commission to decide now that non-GSO FSS issues at Ka-band are to be placed on the WRC-97 agenda and to prevent this issue from undercutting the Commission's effort to satisfy the urgent need to allocate bands for feeder links for non-GSO systems providing MSS below 3 GHz.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert A. Mazer", is written over a horizontal line.

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April 14, 1995

## CERTIFICATE OF SERVICE

I, Robert A. Mazer, hereby certify that the foregoing "Reply Comments of Constellation Communications, Inc." was served by hand or first-class mail, postage prepaid, this 14th day of April, 1995, on the following persons:

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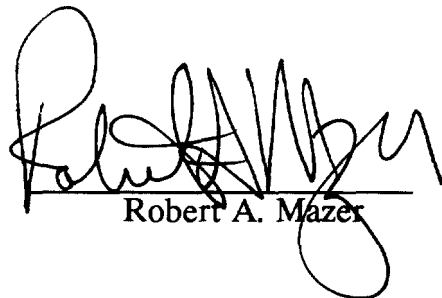
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